

Date: Friday, 9/1/2006 12:07:38 PM
 User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: SHORT STEP ASSEMBLY
Job Number	: 28391		
Estimate Number	: 11672		
P.O. Number	: N/A	Part Number	: D350591121
This Issue	: 9/1/2006	S.O. No.	: NM
Prsht Rev.	: NC	Drawing Number	: D2351 REV E
First Issue	: N/A	Project Number	: N/A
Previous Run	: 27395	Drawing Revision	: E
		Material	: N/A
		Due Date	: 9/25/2006
Written By	: <u> </u>	Qty:	5 Um: Each
Checked & Approved By	: <u> </u>		
Comment	: Est Rev: E 06.10.21 Re-format; Incorporated D2351-041 IPP K J/RF est rev. F 06.02.23 added grinding EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-121CHG003

2.0	D2244116	Step Extrusion
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Comment: Qty.: 0.5000 Each(s)/Unit Total: 2.5000 Each(s)

Pick:

Qty	Part Number	Description	Batch
0.5	D2244-128 Extrusion	323404	

P.E. 06.09.14

5

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

P.E. 06.09.14

5

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

P.E. 06.09.14

5

3-Deburr

P.E. 06.09.14

5

4.0	BENDING	BENDING MACHINE
-----	---------	-----------------



Comment: BENDING MACHINE

Bend per Dwg D2351 using Bend Program D23561dD FT011

DP 6-12-1

(5)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/1/2006 12:07:39 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 28391

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

11/06/12/01 (5)

6.0

D28501

End Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2850-1 End Bracket 326919

11.06.12.5 5

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033

A/R Aluminum Rod ~~119612~~ 119612

3-Do not Grind Flush

11.06.12.5 5
11.06.12.5 5

8.0

QC5/9

WELD INSPECTION



Comment: WELD INSPECTION

11/06/12/06 (5)

9.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

11/06/12/11 (5)

10.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

11/06/12/12 (5)

11.0

D2582

Hi-Skid Step Leg Ass'y



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2582 Step Leg Assy 128791

11/06/12/12 (5)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Process Sheet

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 28391

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

MS20600AD4W3

Cherry Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total : 80.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

16 MS20600AD4W3 Rivet

M101519

11/06/12/12 5

13.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

11/06/12/12 5

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06-12-12 (5)

15.0

D267334

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D2673-34 End Plate

B25396

11/06/12/12 (5)

16.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R

Aluminum Rod

M19612

2-Grind end cap flush per dwg D2351

11/06/12/12 (5)

17.0

QC5/9

WELD INSPECTION



Comment: WELD INSPECTION

PD 06-12-12 5

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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NOTE: Date & initial all entries

Date: Friday, 9/1/2006 12:07:39 PM
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 28391

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch up Alodine

YL 06/12/13 X# 5

19.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

m.h / YL 06/12/13 5

20.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch: *m 102635*

a.m 06/12/14 5

21.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

YL 06/12/14 X5

22.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

23.0

D22301

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

1 D2230-1 Mounting Lug

B28902 ✓

24.0

D22303

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total: 5.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

1 D2230-3 Mounting Lug

B29646 J B306/12/14

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 28391

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

D2856400

Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total: 3.0000 f(s)

Pick:

Packing KitQty Part Number Description Batch

1 D2856-400 7.20" Abrasion Strip B28258 ✓

26.0

AN337A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

2 AN3-37A Bolt M14478 ✓

27.0

AN413A

Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total: 15.0000 Each(s)

AN4-13A

Batch: M102630 ✓

28.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total: 20.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

4 AN960JD10 Washer M100743 ✓

29.0

AN960JD416

Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total: 30.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

6 AN960JD416 Washer M102339 ✓

30.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

2 MS21042L3 Nut (or -3) M101917 ✓

6/20/12/14

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/1/2006 12:07:39 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY

Job Number: 28391

Part Number: D350591121

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

MS21042L4

Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total: 15.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

3 MS21042L4 Nut (or -4) 119185 ✓

0306/12/14

32.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

06/12/14 (5)

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-121

Location: _____

PPP Rev: _____

06/12/14 (5)

34.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

06/12/15

Job Completion



06.12.15

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN KE	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY SCALE NTS	
A	95.02.15	NEW ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

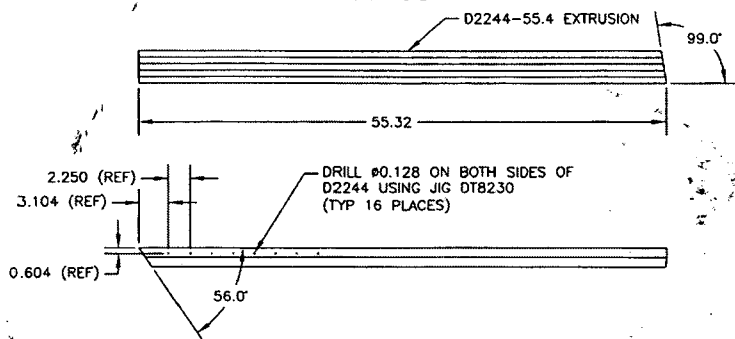
*cut per drawing

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 28391

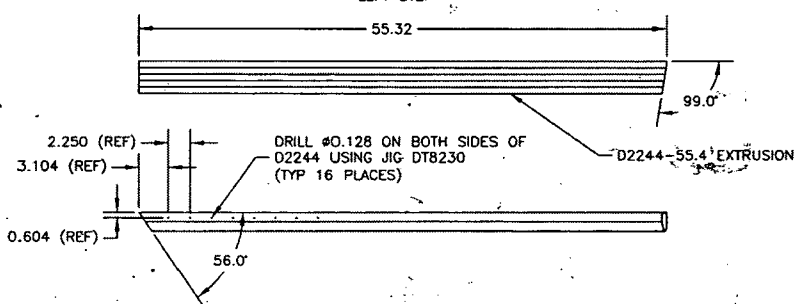
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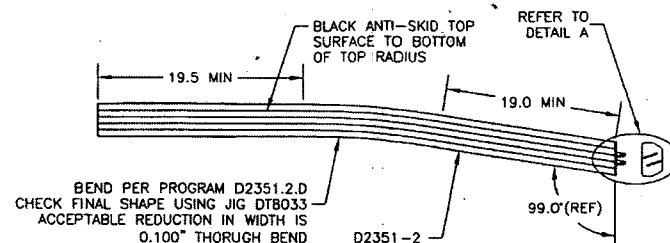
**D2351-2 CUTTING/DRILLING DETAIL
RIGHT STEP**



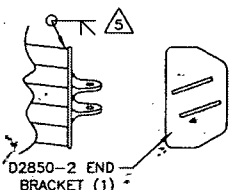
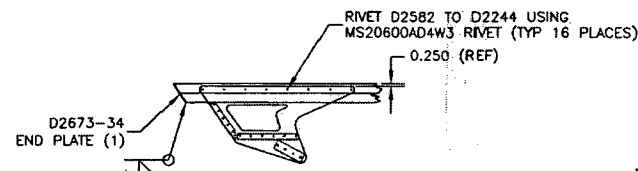
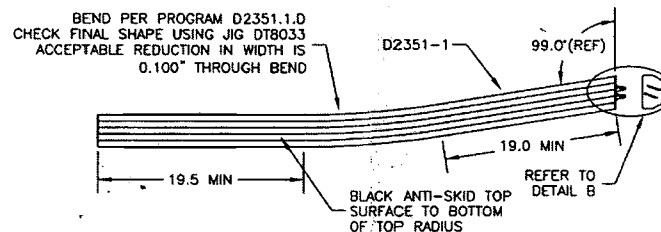
**D2351-1 CUTTING/DRILLING DETAIL
LEFT STEP**



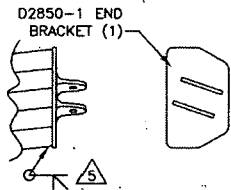
**D2351-042 BENDING/ASSEMBLY DETAIL
RIGHT STEP**



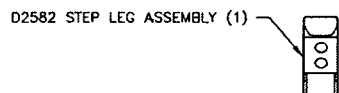
**D2351-041 BENDING/ASSEMBLY DETAIL
LEFT STEP**



DETAIL A
SCALE: 1:4



DETAIL B
SCALE: 1:4



GENERAL NOTES

- 1) WELD PER DART QSI 004
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 - 3) ALL DIMENSIONS ARE IN INCHES
 - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- ⚠ CHAMFER D2244 EXTRUSION 0.075"x45° BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

RELEASED
05.11.28

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DESIGN KE	DRAWN BY PH	DART	DART AEROSPACE LTD. HAMMERSBURY, OXFORD, CANADA
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 2 OF 2
DATE 05.11.14	TITLE HIGH FLOAT STEP ASSEMBLY	SCALE 1:12	

SHO COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITH PUT NOTICE
NO. 28391
WORK ORDER

Date: Friday, 9/1/2006 12:07:38 PM
 User: Kim Johnston

Process Sheet

39

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: SHORT STEP ASSEMBLY
Job Number	: 28391		
Estimate Number	: 11672		
P.O. Number	:	Part Number	: D350591121
This Issue	: 9/1/2006	S.O. No. :	Drawing Number : D2351 REV E
Prsht Rev.	: NC		Project Number : N/A
First Issue	: / /	Type	: LARGE FAB ASSY
Previous Run	: 27395	Drawing Revision	: E
		Material	:
Written By	:	Due Date	: 9/25/2006
Checked & Approved By	:	Qty:	5 Um: Each
Comment	: Est Rev:E 02.10.21 Re-format; Incorporated D2351-041 IPP K J/RF est rev. F 06.02.23 added grinding EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-121CHG003

06.09.07

2.0	D2244116	Step Extrusion
-----	----------	----------------



Comment: Qty.: 0.5000 Each(s)/Unit Total : 2.5000 Each(s)

Pick:

Qty	Part Number	Description	Batch
0.5	D2244-128	Extrusion	

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
-----	-------------	------------------------------



Comment: LARGE FABRICATION RESOURCE 1

1-Cut D2244-128 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

3-Deburr

REFERENCE ONLY

4.0	BENDING	BENDING MACHINE
-----	---------	-----------------



Comment: BENDING MACHINE

Bend per Dwg D2351 using Bend Program D23561dD FT011